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AGRICULTURAL PRODUCTION FOR 1918

WITH SPECIAL REFERENCE TO
SPRING PLANTING AND TO LIVE STOCK

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PRESENT AGRICULTURAL SITUATION AND PLANTING NEEDS.

NOTWITHSTANDING an increased production of staple crops in the United States in 1917, there is need for more food. Taking into account our own needs, the needs of the nations associated with us in this war, and the needs of friendly neutral nations, our best efforts will be required to provide enough food in 1918.

The demand for larger quantities of food, though due in part to the constantly increasing population of this country, is due chiefly to the war. There is necessity of greatly increasing food exports to the Allies.

The farmers of the United States made a generous and patriotic response to the appeals for increased production in 1917. In spite of the apprehension which existed when the United States entered the war as to the possibility of increasing, or even of maintaining, agricultural production, they planted the largest acreages in the history of the country, produced and harvested record crops of most products except wheat, and succeeded in increasing the number of live stock, including not only work animals, but milk and meat animals as well. Weather conditions during the year caused two serious setbacks. The winter wheat crop of a year ago suffered severely because of unfavorable weather, with the result that last spring the abandonment of

the winter wheat acreage was the largest ever known in the country—about 12,000,000 acres. The corn crop also suffered an unprecedented loss because of weather conditions throughout the Corn Belt which resulted in late planting, slow growth, and damage by early frosts.

The achievements of the farmers and live stock men last year furnish cause for congratulation and encouragement, but not for complacency or let-up this year in efforts to better the production record and to conserve food. The necessity of again securing large yields from the farms and ranges this year already has been strikingly emphasized by the President in his message to the farmers of the country and is steadily being pointed out by the Department of Agriculture and other agencies through various channels, including especially the agricultural extension machinery of the Department and the State agricultural colleges. It is clear that it would be economically wise and advantageous for the farmers of the Nation to put forth their best efforts during the coming season to equal, and, if possible, to exceed, their record of last year.

In spite of the large production in many directions during 1917, the situation is not satisfactory. The available supply of wheat is inadequate. Owing to short crops in preceding years, the reserves of a number of important commodities have been greatly reduced. Whether the war continues or not, the demands on this country, because of the increasing population and the needs of Europe, will be great. They will continue to be great for a considerable period even after peace returns. An especially strong demand will be made on this country for meats and live stock. But the record of the farmers last year, made in the face of obstacles, is ground for confidence on their part that, with equal application and organization, they can overcome the difficulties this year.

The Department of Agriculture has given careful consideration not only to the needs, but to the lines along which effort should be put forth this spring. It has had the benefit of advice from agricultural leaders throughout the country. The following is a statement of conclusions concerning the agricultural situation and the planting needs. It is offered as a recommendation for those engaged in crop and animal production, especially for the many farmers who are in a position to readjust their agricultural program to accord with the national necessities.

The situation is such that chief emphasis should be given to the production of the great staple food products, with special stress on wheat and hogs, the leading war foods. It is believed that the necessary production can be secured through the use of the best-known farm methods, but it may be necessary to a small extent to

sacrifice certain of the less important farm crops temporarily in the interest of others which rank highest in importance as food for man. Above all, sound farm practice, including well-established crop rotations with legumes, should not be interfered with. This is in the interest chiefly of crops in future years.

Specifically the Department recommends as follows:

SPRING WHEAT.

THE ACREAGE OF SPRING WHEAT SHOULD BE INCREASED IN ORDER TO MAKE CERTAIN THAT WE SHALL HAVE AN ADEQUATE SUPPLY OF WHEAT FOR OUR OWN USES AND TO MEET THE NEEDS OF THE ALLIES.

While the area of winter wheat sown in 1917 was the largest on record, the condition of the crop, as reported on December 1, was the lowest ever recorded, indicating a probable production of only 540,000,000 bushels. Whether the actual production will be greater or less than the estimate will depend upon conditions prevailing between now and the time of harvest.

If there were planted to spring wheat in the Nation this year an acreage equal to the sum of the record plantings in each spring wheat state within the last ten years, there would be sown approximately 23,300,000 acres. If there should be planted an acreage equal to the sum of the record plantings for each state within the last five years, there would be sown approximately 21,000,000 acres. The record planting for any year was 20,381,000, in 1911. The acreage for 1917 was 18,511,000.

The Department of Agriculture has carefully studied all these records and other data in connection with the present war conditions and needs, and believes that it will be possible this year to secure an acreage in excess of the record acreage which was planted in 1911. It is believed that increased acreages can be secured in States and sections where spring wheat production is known to be reasonably promising, and that such increases can be made without upsetting farm plans. The total acreage will be greatly influenced by what is done in Minnesota, North Dakota, Montana and Idaho where the conditions have not been the most favorable, and where in some sections they have been decidedly unfavorable during the past two years. North Dakota's lowest acreage in the last five years was that of 1917—7,000,000; Minnesota's, 3,230,000 in 1917; Montana's, 390,000 in 1913; and Idaho's, 200,000 in 1913. North Dakota's record acreage in the last five years was 8,350,000 in 1915; Minnesota's 4,150,000 in 1913; Montana's 1,122,000 in 1917; and Idaho's 375,000

in 1917. North Dakota's five year average (1912-1916) was 7,657,000; Minnesota's 3,995,000; Montana's 566,000; and Idaho's 231,000. Montana's annual planting has shown increases during the last four years as follows: 1914-15, 321,000; 1915-16, 185,000; 1916-17, 187,000. What these States can do this spring it is difficult to determine, and will be controlled by local conditions. Because of the difficulties which they have experienced, particularly during the past two years, a definite suggestion of acreages for these four states is not given in the accompanying table. However, the average acreage of each for five years (1912-1916) is included. These are great spring wheat producing States and they may be counted upon to do all they can. If it is possible for them to extend their acreages the total for the last column will be correspondingly greater.

The accompanying table shows the record planting in each State within the last 10 years, within the last 5 years, and the acreage planted in 1917, in all the States producing considerable quantities of spring wheat.

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TABLE 1—Spring Wheat Acreage Suggested for 1918, compared with earlier years.

State or Territory.	Largest acreage, 10 years, 1908-1917.		Largest acreage, 5 years, 1913-1917.		Acreage, 1917.	† Acreage suggested for 1918.
	Year.	Acres.	Year.	Acres.		
Maine	1917	11,000	1917	11,000	11,000	20,000
Vermont	1917	3,000	1917	3,000	3,000	5,000
New York .....	....	.....	....	.....	.....	40,000
Pennsylvania .....	....	.....	....	.....	.....	10,000
Maryland .....	....	.....	....	.....	.....	2,000
West Virginia .....	....	.....	....	.....	.....	10,000
Ohio .....	....	.....	....	.....	.....	50,000
Indiana .....	....	.....	....	.....	.....	50,000
Illinois .....	....	.....	....	.....	.....	100,000
Michigan .....	....	.....	....	.....	.....	50,000
Wisconsin	1917	146,000	1917	146,000	146,000	500,000
Minnesota	1908	5,356,000	1913	4,150,000	3,230,000	* 3,955,000
Iowa	1911	360,000	1913	345,000	250,000	750,000
North Dakota	1911	9,150,000	1915	8,350,000	7,000,000	* 7,657,000
South Dakota	1911	3,700,000	1913	3,675,000	3,596,000	3,596,000
Nebraska	1917	400,000	1917	400,000	400,000	700,000
Kansas	1908	200,000	1914	60,000	44,000	50,000
Montana	1917	1,122,000	1917	1,122,000	1,122,000	* 566,000
Wyoming	1917	123,000	1917	123,000	123,000	175,000
Colorado	1908	293,000	1917	264,000	264,000	325,000
New Mexico	1917	69,000	1917	69,000	69,000	80,000
Arizona	1908	15,000	....	.....	.....	.....
Utah	1908	170,000	1917	90,000	90,000	125,000
Nevada	1917	37,000	1917	37,000	37,000	50,000
Idaho	1917	375,000	1917	375,000	375,000	* 231,000
Washington	1917	1,350,000	1917	1,350,000	1,350,000	1,700,000
Oregon	1917	401,000	1917	401,000	401,000	300,000
California .....	....	.....	....	.....	.....	5,000
United States .....	.....	23,281,000	.....	20,971,000	18,511,000	† 21,142,000

†This should be interpreted in the light of the preceding text.
*Five year average.

It is hoped that many farmers, especially in the northern part of the corn belt, will find it possible to plant five to ten acres additional in wheat. In some cases they will plant more. In a number of States in the eastern and central portion of the country where spring wheat has not been grown in recent years, the crop is now being re-established and it is recommended that this movement be encouraged to a moderate extent, and possibly even up to the area that was profitably grown only a few years ago.

It is believed that to a small extent the acreage in oats if necessary could be reduced in the interest of wheat, even though this may mean somewhat less of oats to be fed to live stock, leaving the animals more dependent upon other grains and roughage. Likewise, a very small portion of the acreage which normally would be planted to corn in the northern part of the Corn Belt may be sown to spring wheat. It is well known to good feeders of live stock that some adjustment can be made along these lines without serious, if any detriment to their feeding operations.

If the acreage of spring wheat indicated for some of the states cannot be planted, the acreage of barley, which is known to grow better in some localities, might be increased. The use of barley is increasing in this country and it is a welcome food in Europe.

The maximum production of wheat will be aided by a wider adoption of certain well-known practices. These include especially the thorough preparation of the seed bed, the selection of the best seed obtainable, and the treatment of seed where necessary to protect it against disease. To reduce losses in the Far West resulting from dust explosions in thrashing machines, specialists are being stationed at various points throughout that region to aid manufacturers and operators of these machines to apply the devices and methods which the Department, in co-operation with certain State colleges, has found to be completely effective in preventing these fires. Similar work is under way to eliminate dust explosions in grain elevators and warehouses.

HOGS.

THE NUMBER OF HOGS SHOULD BE INCREASED BY AT LEAST 15 PER CENT.
DURING THE YEAR 1918.

This recommendation is made as a result of a very careful study of the pork situation and has been approved by the State co-operating agencies. The percentage increase recommended varies in the differ-

ent states, as indicated in Table 2. It is expected that in the States not named in the table the supply of hogs will be maintained if not increased. The increase in the number of hogs in the Northwestern States should be large. In the New England States, where only about two hogs are kept per farm, the increase also should be great. Much work already has been done in this direction, but further intensive effort is needed to bring the program to a successful conclusion.

TABLE 2.—*Percentage increase in hogs in 1918 desired in a number of states:*

State.	Per Ct.	State.	Per Ct.	State.	Per Ct.
Missouri.....	50	Nebraska....	20	South Carolina..	15
Alabama.....	30	Arkansas....	20	South Dakota...	10
Kansas.....	25	Mississippi...	20	Maryland.....	10
Iowa.....	25	Ohio.....	15	North Carolina..	10
Illinois.....	20	Kentucky....	15	West Virginia...	5
Indiana.....	20	Tennessee....	15	Georgia.....	5

Pork constitutes more than one-half of all the meat produced in the United States and it is the mainstay of the ration of the laboring man and the soldier. The need for increasing the supply of fats is particularly acute. Fats in all forms—dairy products, beef fats, vegetable oils and pork fats—should be increased to meet the demands of this country and the Allies. Animal fats can be increased more quickly by increasing the number of hogs than in any other manner.

The reported decrease in the number of hogs in the Allied countries also has been very great, and it is expected that the decrease will continue at an accelerated rate. The urgent needs of the Allies have resulted in an increase of our exports of pork products. Before the war (1910 to 1914), we exported on the average about 900,000,000 pounds of pork products yearly, of which about one-half was lard. For the year ending September 1, 1917, exports increased to 1,446,000,000 pounds. This increase consisted entirely of meat (largely bacon), the exports of lard remaining about the same.

Pork production will be increased economically by breeding for two litters a year, by saving through better care a large number of the pigs farrowed; by growing pasture and forage crops; by using wastes, especially town and city garbage; by proper rations of concentrated feeds; by the use of self-feeders; by pasturing alfalfa and other legumes and other forage crops; by hogging down grain sorghums and corn; by finishing hogs to heavier weights up to about 275 pounds, and by preventive measures which will keep hogs free from cholera, tuberculosis, other diseases, and parasites.

SUGAR.

EFFORT SHOULD BE MADE TO MAINTAIN THE ACREAGE OF SUGAR CANE AND SUGAR BEETS AND TO INCREASE THESE AREAS IN SO FAR AS THESE CROPS ARE WELL ESTABLISHED OR ARE NECESSARY TO SOUND AGRICULTURAL PRACTICE.

An extensive increase in 1918 will not be possible because of the time required to grow seed cane stock and because of the limited amount of beet seed available. However, there is enough beet seed to plant the usual acreage.

On the acreage planted the highest possible yield should be obtained. In both beet and cane fields a thorough preparation of the seed beet should be made. Beets should be thinned carefully to insure a uniform stand and cultivated intensively. Fields infested with pests should be avoided. Because the supply of both beet and cane seed is limited, every precaution should be taken to secure the largest acreage and the highest yield from the seed available. The by-products of both beet and cane sugar manufactured should be used to increase the production of meat and dairy products by feeding to livestock.

Satisfactory substitutes for sugar may be used to a much larger extent. These include sorghum, corn and cane syrup, maple sugar and syrup and honey. The maple syrup and sugar production can and should be increased in those areas in which maple trees are growing in sufficient numbers to warrant the expenditure of the necessary time and labor. Maple syrup and sugar are produced in 19 states, the annual output exceeding 14,000,000 pounds of sugar and 4,000,000 gallons of syrup. These figures can be doubled. The production of sorghum syrup in 1917 exceeded that in 1916 by nearly 4,000,000 gallons. Sorghum syrup may be produced in nearly every State in the Union. An increased production of sorghum syrup will enable the public still further to conserve the sugar supply in the most available form for transportation to our soldiers.

SHEEP AND WOOL.

EFFORT SHOULD BE MADE TO INCREASE THE PRODUCTION OF SHEEP AND WOOL. INCREASE IN FARM FLOCKS IS RECOMMENDED WHEREVER CONDITIONS ARE FAVORABLE AND THE FIRST COST OF STOCKING IS NOT TOO HIGH.

The wool produced in this country furnishes only about 50 per cent. of the amount used in peace times; the war demands have emphasized the seriousness of this domestic shortage. To equip 2 million

soldiers and clothe them for one year would require the entire quantity of wool grown annually in this country.

During recent years we have shorn about 35 million fleeces annually, and the pulled wool taken from sheep and lambs slaughtered for meat brings the total clip up to the equivalent of about 40 million fleeces. If all this wool were suitable for military use, it would supply only 2 million men. The production of wool in the United States has remained practically stationary from 1914 to 1917, while imports increased 48 per cent., and the estimated net supply increased only about 21 per cent.

That mutton and wool production in this country can be increased greatly admits of no doubt. This can be accomplished by developing sheep husbandry on farms, especially in the Eastern and Southern States. Steps should be taken in the East and South to do away with the sheep-killing dog menace by State or local action. Large results can be secured by improving methods of breeding and management on the range; by securing the restocking of improved farm lands with sheep; by the larger use of forage crops and pastures; by encouraging sheep and lamb clubs; by the elimination of parasites; by protection against losses from predatory animals; and by having lambs ready for market at from 70 to 80 pounds weight, thereby requiring a minimum of grain to finish them and making possible the maintenance of larger breeding flocks.

DAIRY PRODUCTS.

THE SUPPLY OF DAIRY PRODUCTS SHOULD BE MAINTAINED TO MEET THE NEEDS OF THIS COUNTRY AND TO HELP SUPPLY THE INCREASING DEMANDS OF THE ALLIES.

Dairy products are essential to the well-being of the Nation, and the dairy cow produces more food with less feed than any other of our domestic animals. Before the war the United States received dairy products from about 20 foreign countries, now these supplies have been largely stopped and it has become necessary not only to replace them at home, but also to export large quantities. In 1914, for instance, we imported approximately 64 million pounds more of dairy products than we exported, not including fresh milk and cream. In 1917 we exported 320 million pounds more than we imported.

The total amount of milk produced in this country in 1917 is estimated to be 84,611,350,000 pounds. Large losses occur, and the greatest is through the failure fully to utilize skimmed milk and buttermilk for a human food. These products have all of the food value

of the whole milk except the fat. A given quantity of them would produce seven times as much food value in the form of cottage cheese as they would produce in the form of meat if fed to live stock. The possibilities of increasing the supply of food by the fuller utilization of these by-products are enormous. In brief, there should be a better utilization of skimmed milk and buttermilk, both as food on the farm and through the market.

Better results in dairying may be secured by proper sanitation and care in producing and handling milk by better care and utilization of pastures; by raising on the farm adequate supplies of roughage, particularly legumes and silage to take the place of grains so far as is practicable; by preserving for dairy purposes all the high-producing animals and eliminating those that are inefficient; by feeding according to production so as to secure the greatest yield of milk with the least quantity of feed, which necessitates a record of production of individual cows; by the full utilization in the community of good bulls throughout the entire period of their usefulness and to their full capacity; and by the prompt control of disease.

POULTRY.

POULTRY PRODUCTION SHOULD BE INCREASED GREATLY, ESPECIALLY IN BACK YARDS AND ON FARMS WHERE WASTE MATERIAL IS AVAILABLE AND THE PURCHASE OF EXPENSIVE GRAINS AND OTHER MATERIAL IS NOT REQUIRED.

Increased poultry production may be attained most economically by early hatching; by confining mother hens at least 10 days after the chicks are hatched; by reducing losses on account of rats, weasels and thieves, and from cold, damp conditions; by thorough sanitation; by discouraging the marketing of early-hatched pullets as broilers; by eliminating non-producing hens and keeping good layers through at least two laying seasons; and by the poultryman raising his own feed as far as possible.

CORN.

AN ACREAGE OF CORN APPROXIMATELY EQUAL TO THAT OF 1917 SHOULD BE PLANTED, WITH POSSIBLY SLIGHT REDUCTIONS IN CERTAIN SECTIONS TO FREE AREAS FOR SPRING WHEAT.

In 1917, the acreage of corn grown was the largest in the history of the country—119,755,000 acres, compared with 105,672,000 acres, the average for 1911-1915. The production in 1917 was 3,159,000,000 bushels, the greatest yield ever recorded; but a large part of the crop is soft and the net feeding value is much less than appears from the

mere statement of the quantity produced in terms of bushels. The crop during the period of 1911-1915 averaged 2,754,000,000 bushels annually.

In regions where drought or frost injury has seriously reduced the supply of corn suitable for seed, the Department will co-operate with State organizations to secure the necessary supplies of proper varieties, but every farmer should do his utmost without delay to secure the seed which he requires. The great losses resulting from early frosts in the autumn of 1917 and smaller losses in former years show the necessity of planting available seed of early maturing varieties in the States north of the Ohio and Missouri Rivers this spring, and the selection and saving of an ample supply of fully matured seed of these varieties in the autumn of 1918.

While the importance of the corn crop could hardly be overstated, yet it must be remembered that it is necessary also to have a large wheat acreage. A corn acreage several per cent smaller than that of 1917, if necessary, could be planted this year and still be larger than the normal area devoted to that crop. This indicates that in the limited sections where spring wheat grows well there can be a reasonable reduction of corn acreage in the interest of wheat without endangering the corn yield.

OATS, BARLEY, RICE, BUCKWHEAT AND FLAXSEED.

THE AREA IN OATS SHOULD BE MAINTAINED, ESPECIALLY IN REGIONS AND ON SOILS WHICH ARE NOT SO WELL ADAPTED TO OTHER GRAINS, BUT WITH A SMALL REDUCTION TO PROVIDE FOR INCREASING THE WHEAT ACREAGE. BARLEY PRODUCTION SHOULD BE INCREASED IN REGIONS WHERE IT GROWS BEST, ESPECIALLY IN THE NORTHERN EDGE OF THE CORN BELT AND IN SECTIONS NORTH AND WEST OF THE BELT; AND RICE, BUCKWHEAT AND FLAXSEED PRODUCTION SHOULD BE MAINTAINED AND, IF POSSIBLE, INCREASED.

Barley has a longer seeding period than other grains and can be used in the place of corn as an animal feed and as a partial substitute for wheat in bread making. Buckwheat can be planted later than many other crops, on soils not so well adapted to other grains. Virgin lands should be used as far as possible for flaxseed production. The Nation needs approximately 28 million bushels of flaxseed annually, while the production in 1917 was less than 9 millions.

GRAIN SORGHUMS.

THE PRODUCTION OF GRAIN SORGHUMS (KAFIR, MILO, FETERITA, ETC.) SHOULD BE INCREASED GREATLY THROUGHOUT THE DRIER PORTION OF THE PLAINS REGION.

Kafirs are the most certain grain crops in this section and they can be made to supplement wheat as human food and to replace corn as animal food.

GENERAL SUGGESTIONS REGARDING GRAINS.

The maximum production of grains will be secured by adopting certain well-known principles of management. These include thorough preparation of the soil; early seeding; use of manure; selecting the best seed obtainable; testing seed for germination to insure good stands; treatment of seed for various fungus diseases; proper cultivation of crops which are intertilled; utilizing, to the greatest extent practicable, machinery and horse labor; and elimination of losses in harvesting and storage.

To aid those areas which have suffered most from drouth and frost the Department of Agriculture is helping farmers to find suitable seed. To reduce the losses from fungus diseases, especially smuts of wheat, barley and oats, special Federal and State agents have been placed in the regions likely to suffer most heavily, to demonstrate methods of control and to encourage their general adoption.

POTATOES.

THE NORMAL ACREAGE OF IRISH AND SWEET POTATOES SHOULD BE MAINTAINED IN 1918, NOTWITHSTANDING THE LARGE CROPS IN 1917.

This is especially true in view of the necessity of releasing more wheat for export. Potatoes, both Irish and sweet, are the most popular and most generally used of the perishable staple crops. The Department, through its extension and publication activities, is encouraging their greater use, especially the use of the Irish potato as a partial substitute for wheat in bread making.

The yield per acre can be made more certain by greater attention to the selection of disease-free potatoes of good varieties, by treatment of seed potatoes immediately before planting, and by the use of sprays to prevent loss from blight.

HAY, FORAGE AND PASTURES.

WHEREVER FEASIBLE THE AREA DEVOTED TO HAY, FORAGE AND SILAGE CROPS SHOULD BE INCREASED AND THESE PRODUCTS SHOULD BE USED TO A GREATER EXTENT IN PLACE OF GRAINS AND OTHER CONCENTRATES.

It is especially recommended that the acreage of alfalfa, clover, cowpeas, soy beans, velvet beans and other leguminous forage plants be maintained or increased. Particular attention is called to the fact that corn stover cut at the proper stage, properly protected against the weather and judiciously fed, is fully equal to timothy hay in feeding value. In view of this fact, increased acreages of corn should be cut for fodder in localities where there is a possibility of utilizing the stover.

With a view to increase their yield of forage, special attention should be given to pastures. The weeds should be kept cut, the pastures should be used only at the proper time, and they should be seeded in thin places, etc.

Large additions can be made to the feed available on the farm by sowing in corn, at the time of the last cultivation, such forage crops as rape, soy beans, and, in the South, by planting in the corn at the proper time peanuts, velvet beans, and the like.

In localities where straw must be shipped to be used advantageously it is advisable to bale the straw immediately after thrashing. This prevents waste and preserves whatever feeding value the straw may possess.

In increasing the area of grain and intertilled crops, care should be taken not to decrease hay and pasture areas below the amount needed for the live stock to be kept on the farm.

BEEF ANIMALS.

THE NUMBER OF BEEF ANIMALS SHOULD BE MAINTAINED AND, IN AREAS WHERE IT IS CLEARLY THE BEST RANGE AND FARM PRACTICE, SHOULD BE INCREASED.

The decline in the number of cattle on farms and ranges in the United States from the high point of 72 millions in 1907, reached its lowest point in 1914, with an estimated total of 56 millions. Since that date a steady increase has been maintained, the supply on January 1, 1916, being about 62 millions and on January 1, 1918, more than 66.8 millions, or nearly 5 millions more than in 1910. Since the out

break of the European War and the consequent depletion of the European supply of cattle, the task of meeting the increasing demands for beef and beef products, to a large extent, has been put upon the people of the United States.

The exports of dressed beef and beef products have increased 177 per cent. during the last three years. The shortage of beef abroad, like the shortage of other meat products, doubtless will be accentuated as the war progresses.

Beef production can be increased in the settled farm areas of the Nation and especially in the South. It can be increased everywhere by preventing the loss of flesh by calves during their first winter and keeping calves growing during this period so that beef animals may be marketed at earlier ages, thereby requiring the maintenance of fewer stocker cattle and making possible the maintenance of larger breeding herds; by using a larger proportion of bulls on the range to insure larger calf crops; by using good bulls only; by reducing the tick-infested areas as rapidly as possible; by eliminating as far as possible the losses from disease and predatory animals; by transferring animals from regions of scarcity of feed to those where there is an abundance of feed; by providing a more ample supply of winter feed and better shelter, and by utilizing all roughage produced, either as fodder, hay, or silage, and supplementing these feeds with more nitrogenous concentrates and less grain.

BEANS, PEAS AND PEANUTS.

THE PRODUCTION OF BEANS AND PEAS SHOULD BE INCREASED IN REGIONS TO WHICH THEY ARE ADAPTED, BECAUSE OF THEIR HIGH FOOD VALUE, KEEPING QUALITIES, AND AVAILABILITY FOR DOMESTIC OR EXPORT TRADE. SOY BEANS AND PEANUTS SHOULD BE INCREASED IN ORDER TO SUPPLEMENT BEANS AND PEAS AS HUMAN FOOD, AS A SOURCE OF MUCH NEEDED OIL, AND AS ANIMAL FEEDS.

The production of beans last year in the six leading states increased from 10,715,000 bushels to 15,701,000 bushels, and peanuts from 35,324,500 bushels to 60,222,000 bushels. But these increases proved to be greatly needed, and there is every indication that large increases will be readily absorbed in 1918. The peanut is especially valuable because of the oil it contains, for which the need is great. In the South, especially, soy beans and peanut meal are proving very satisfactory as partial substitutes for wheat. Both soy beans and peanuts are of great value as forage crops.

PERISHABLES.

- (A) MARKET GARDENS NEAR LARGE CONSUMING CENTERS SHOULD BE INCREASED SO AS TO MEET, AS NEARLY AS POSSIBLE, THE NEEDS OF THE COMMUNITY, AND IN ORDER TO OBVIATE THE NECESSITY OF TRANSPORTING SUCH PRODUCTS FROM DISTANT POINTS.

It is important to do all that is possible to relieve the strain upon transportation facilities.

- (B) THE PLANTING OF HOME GARDENS, ESPECIALLY FOR FAMILY NEEDS AND FOR PRESERVING FOOD FOR FUTURE USE, AGAIN SHOULD BE EMPHASIZED.
- (C) THE COMMERCIAL PRODUCTION OF PERISHABLES GENERALLY SHOULD BE INCREASED ABOVE NORMAL WHEREVER IT IS REASONABLY CLEAR THAT TRANSPORTATION AND MARKETING FACILITIES WILL BE AVAILABLE.

Last year the production of perishables is estimated to have been 50 per cent greater than normal. Notwithstanding the large output, the marketing difficulties were relatively less than in former years because of the effective efforts of the people throughout the country, assisted by Federal and State agencies, to conserve these products for future use by canning, preserving, pickling and drying. The Department again will actively assist in the conservation of perishables, as it did last summer, and will be able to render more effective assistance with its largely increased staff. It will co-operate with all State agencies, especially the State agricultural colleges, to bring about the planting of more war gardens, to see that they are maintained throughout the season, and to insure the prompt consumption or preservation for future use of all perishables produced in these gardens or otherwise. More effective assistance also will be rendered in the marketing of perishable products through the greatly extended daily market news service of the Bureau of Markets and the weekly reports of truck crop production prepared by the Bureau of Crop Estimates.

COTTON.

HAVING TAKEN STEPS TO PROVIDE FOOD FOR ITS OWN PEOPLE AND FEED FOR ITS LIVE STOCK, WHICH IS URGED AS A MATTER OF BOTH PUBLIC DUTY AND SELF-PROTECTION, THE SOUTH SHOULD PLANT AS MUCH COTTON AS CAN BE WELL CULTIVATED AND HARVESTED.

The best ways of increasing the cotton output include better preparation of the soil, utilizing such fertilizers as may be available, planting cotton after legumes, using the best seed of early maturing varieties, deferring planting until the ground is warmed up, using

measures to hold the boll weevil in check, and prompt and thorough picking of the crop.

While emphasizing the need for an adequate cotton supply, the Department again urges the great importance of developing diversified farming in the South. It is better farm economy, results in fuller utilization of labor, and, in the long run, will bring larger returns.

FARM SUPPLIES, EQUIPMENT AND LABOR.

FARM EQUIPMENT AND SUPPLIES.

HORSE AND POWER MACHINERY SHOULD BE USED TO SUPPLEMENT HAND LABOR WHEREVER PRACTICABLE.

Farm machinery and implements should be protected from the weather and kept in repair and good working order at all times. Owing to existing difficulties in transportation, farmers should take early steps to secure their farm supplies, repair parts for farm machinery, and new equipment, so that they will have them on hand at the proper time.

LABOR.

In farming, as in other industries, there are labor difficulties to be overcome. The welfare not only of farmers themselves, but also of the Nation, depends upon the determination of the farmers with the assistance of Federal and State agencies and other organizations, to surmount these difficulties. The Department has stationed in nearly every State of the Union a farm labor specialist who will co-operate with the Department of Labor and with appropriate State agencies in dealing with the problem. These men will do everything in their power to enable the farmers of the Nation to secure the requisite supply of labor for their operations, especially during the planting and harvesting seasons. The most promising lines of approach in dealing with the matter seem to be the following:

(1) A systematic survey of the farm labor situation in order to ascertain the needs of the farmers and to determine ways of meeting them. The Department, through its agents stationed in various States and in co-operation with the Department of Labor and the State councils of defense and other State agencies, is now making such a survey.

(2) The promotion of fuller co-operation in the utilization of labor among farmers in the same community.

(3) The further development of agencies for assisting in the transfer of labor from sections where the seasonal pressure has passed to sections where additional help is urgently needed.

(4) Making available additional labor which heretofore has not been fully or regularly utilized in farming operations, including boys of high school age who have had experience on the farm.

(5) The largest possible production and fullest use of labor-saving machinery.

The releasing of men for agricultural purposes, by replacing them with women in the lighter industrial tasks so far as possible, and by diverting labor from relatively nonessential enterprises, are matters which demand serious consideration.

It should be borne in mind that some of the disturbing factors of last year in the farm labor situation have been eliminated, and therefore the problem in some respects may not be quite so acute this year. Naturally, the disturbances are much more violent immediately after a great shock has been given the industrial system. This Nation has been organized on a peace basis. When it entered the war it was necessary not only to create vast additional facilities and machinery, but also to provide on an enormous scale for the operation of the new establishments and of those previously existing. Many shipyards had to be expanded and others had to be created. Large cantonments had to be built, and built quickly. Furthermore, it was necessary to have an army, and this necessarily caused additional labor drains and dislocations. In the haste of the first draft, it was impossible to work out a satisfactory classification of labor with reference to the National needs.

The Army cantonments and many of the aviation fields and camps have now been completed and will not have to be duplicated. A part of the industrial expansion for war purposes also has been accomplished. The regulations promulgated by the War Department provide a system of classification of the men subject to the draft which contemplates the placing of skilled farm labor engaged in necessary agricultural enterprises in class 2, assistant or associate managers of necessary agricultural enterprises in class 3, and heads of necessary agricultural enterprises in class 4. The Secretary of War has asked Congress for authority to furlough soldiers of the National Army, whenever the interests of the service or the national security and defense render it necessary or desirable, during harvest and planting time to enable them to assist in the agricultural production of the country. It is reasonable to suppose, in view of these facts, that some of the difficulties previously encountered will be re-

moved or minimized. It must be recognized, however, that the situation will continue to be difficult and that a satisfactory solution will require the best thought of the Nation and the fullest and most complete co-operation of all agencies.

PREVENTION OF LOSSES.

In these days, when the conservation of every product which contributes to our food supply means so much, every effort should be made to prevent losses in production, storage and transportation. Billions of dollars are lost every year from such preventable causes as insects, plant and animal diseases, carelessness in breeding, predatory animals, rats, mice, ground squirrels and other rodents. These losses are being held in check by present agencies and can be further greatly reduced or prevented at a cost which is insignificant when compared with the amount of damage done. Methods of controlling many of these harmful factors are now well established and should be more widely adopted. A large loss on the farms of the United States results from the improper care of manure, and its careless and ineffective use. In these times of scarcity of fertilizing materials more attention than ever should be paid to the conserving of plant food from this source.

ANIMAL DISEASES AND PARASITES.

It has been estimated that diseases of animals, such as hog cholera, tuberculosis, contagious abortion, dourine, Texas or tick fever, and others, cause annual losses aggregating many millions. Many of these diseases, to a still greater extent, can be prevented or their ravages reduced considerably. The Department has greatly extended its facilities for dealing with these matters and will assist farmers in every feasible way.

INSECTS AND PLANT DISEASES.

The annual losses from insects and plant diseases are enormous. It has been conservatively estimated that smuts of wheat alone cause losses aggregating 60 million dollars annually. The staff of specialists in the Department of Agriculture, as well as the staffs in the State institutions, has been increased, and, in co-operation with the forces in the various states, they will be able to render more effective assistance to farmers during the coming season than ever before.

PREDATORY ANIMALS AND RODENTS.

The losses from animals injurious to agriculture and to animal husbandry are enormous. Native rodents cause losses of grain, forage and other agricultural products estimated at more than \$150,000,000. House rats and mice levy a toll of \$200,000,000 upon the Nation's food supply. On the western cattle ranges predatory animals alone cause losses of live stock amounting to \$20,000,000 to \$30,000,000 annually. Methods of eradication have been developed, especially in the case of rodents, which will make it possible to reduce the losses at a relatively small expense. The Department will vigorously prosecute its activities in this field and will assist farmers in every feasible way, in co-operation with the extension forces of the States, to control or eliminate these pests.

AGENCIES FOR BRINGING THIS PROGRAM BEFORE THE FARMER.

Recommendations made in this program for maintaining or increasing crop and live stock production will be brought to the attention of farmers in all sections of the United States through the organized forces of County Agents and specialists in the Federal Department of Agriculture and the State agricultural colleges, experiment stations, and other State and local agencies. These agencies will urge these measures upon farmers through public meetings, personal interviews, correspondence and publications.

Owing to the tremendous importance of maintaining and increasing farm production during the continuance of the war, the Department of Agriculture has strengthened its forces so that its organization and facilities may be available in the most effective manner and it will extend its co-operation with State and local agencies in assisting the farmers of the country in every possible way. As the season advances, specific recommendations will be made by the Department with respect to each of the important crops and classes of live stock.

FARMERS MAY BE DEPENDED UPON.

The war has served to exhibit to the country at large, as the country never quite realized before, its dependence upon agriculture and the manifold problems which beset our primary industry. There is reason to believe therefore that during the coming year agriculture will have the active sympathy and co-operation of all citizens and classes who are in position to render aid. The farmers of the United States will not fail to do all that they can in this emergency and, with favorable seasons, they will produce enough to sustain the civil population, to keep our Army and Navy in full fighting vigor, and to supplement the depleted resources of the Allies. Every facility that the Department of Agriculture can command to assist them will be freely placed at their disposal.